IN THE CLAIMS:

1. (Currently amended) A display device comprising ~~an~~ the adjustable light source; a the display panel with display pixels for modulating light originating from the light source; and the processing circuitry as claimed in claim 17. ~~coupled to the display panel and the light source, the processing circuitry having an input for receiving an input signal representing gray levels of pixels of an image to be displayed on the display panel and comprising:~~

~~means for selecting a dimmed brightness level of the light source in dependence on the gray levels of the image pixels, the means for selecting being adapted to:~~

~~select the dimmed brightness level in dependence on a number of occurrences of a gray level corresponding to a brightness of display pixels above the dimmed brightness level and/or a number of occurrences of a gray level corresponding to a brightness level of display pixels below a predetermined brightness level, and~~

~~substantially minimize an error function including one or more weighted numbers of occurrences formed by multiplying each of the one or more numbers of occurrences by a weighting factor; and~~

~~means for adapting the input signal in dependence on the dimmed brightness level.~~

2. (Cancelled)

3. (Cancelled)

4. (Currently amended) A display device as claimed in claim 19 ~~[[1]]~~, the error function being formed by an addition of the one or more weighted numbers of occurrences.

5. (Previously presented) A display device as claimed in claim 4, the error function being substantially:

$$E_{Tot}(x_1) = \sum_{x=0}^{x_{thresd}} g(x)\,p(x) + \sum_{x=x_1+1}^{x_{max}} f(x)\,p(x),$$

wherein x is a variable representing the gray level of a pixel, g(x) and f(x) are weighting functions, p(x) is the number of occurrences of a pixel with the gray level x divided by the total number of pixels in the image, x_1 is the gray level providing the dimmed brightness level, x_{max} is a maximum available gray level in the input signal, x_{thresd} is the gray level corresponding to the predetermined brightness level.

6. (Previously presented) A display device as claimed in claim 5, the weighting functions (f(x), g(x)) being substantially equal to one.

7. (Previously presented) A display device as claimed in claim 5, at least one of the weighting functions (f(x), g(x)) being formed by a sum (f_{ij}) of deviations (d(k1,k2)) of gray levels between a pixel and its neighboring pixels, with k1, k2 being indices identifying the neighboring pixels.

8. (Previously presented) A display device as claimed in claim 7, the pixel being the pixel having the highest sum (f_{ij}) of all pixels with this gray level in an image.

9. (Previously presented) A display device as claimed in claim 5, at least one of the weighting functions (f(x), g(x)) being formed by a deviation of the gray level from a gray level corresponding to the dimmed brightness level or by a deviation from a gray level corresponding to the predetermined brightness level.

10. (Previously presented) A display device as claimed in claim 1, the predetermined brightness level being formed by the maximum contrast ratio of the display panel and the dimmed brightness level.

11. (Currently amended) A display device as claimed in claim 19 ~~claim 3~~, the input signal comprising color components (R1, G1, B1) of the image, a component error function being determined for each of the color components (R1, G1, B1), the error function being formed by adding the component error functions.

12. (Previously presented) A display device as claimed in claim 1, the processing circuitry further comprising means for determining a smoothed dimmed brightness level (Lbdim S(n)) for an image in dependence on the dimmed brightness level (Lbdim (n)) of the image and a previous smoothed dimmed brightness level (LbdimS(n-1)) of a previous image, wherein n is a sequence number of successive images.

13. (Previously presented) A display device as claimed in claim 12, the smoothing having a faster response time to an increasing dimmed brightness level of subsequent images than to a decreasing dimmed brightness level of subsequent images.

14. (Previously presented) A display device as claimed in claim 1, wherein the means for selecting a dimmed brightness level are further adapted to select the dimmed brightness level in dependence on a content of a part of the image.

15. (Currently amended) A method of adjusting a light source of a display device, the display device comprising a display panel ~~with~~ having display pixels for modulating light originating from the light source; and processing circuitry coupled to the display panel and the light source, the processing circuitry having an input for receiving an input signal representing gray levels of pixels of an image to be displayed on the display panel, the method comprising:

- selecting a dimmed brightness level of the light source in dependence on the gray levels of the image pixels, the selecting step comprising:

selecting the dimmed brightness level in dependence on: (i) a number of occurrences of a gray level corresponding to a brightness level of display pixels above the dimmed brightness level, or (ii) ~~and/or~~ a number of occurrences of a gray level corresponding to a brightness level of display pixels below a

predetermined brightness level being a fixed or adjustable level determined in dependence on the dimmed brightness level, and

~~substantially minimizing an error function including one or more weighted numbers of occurrences formed by multiplying each of the one or more numbers of occurrences by a weighting factor; and~~

- adapting the input signal in dependence on the dimmed brightness level.

16. (Previously presented) A product comprising the display device as claimed in claim 1, and signal processing circuitry for providing the input signal.

17. (Currently amended) ~~An integrated circuit~~ Processing circuitry having:

- an input for receiving an input signal representing gray levels of pixels of an image to be displayed on a display panel of a display device, the display device comprising an adjustable light source , the display panel having display pixels for modulating light originating from the light source;
- outputs for coupling to the display panel and the light source;
- means for selecting a dimmed brightness level of the light source in dependence on the gray levels of the image pixels, the means for selecting being adapted to:

select the dimmed brightness level in dependence on: (i) a number of occurrences of a gray level corresponding to a brightness level of display pixels above the dimmed brightness level, or (ii) ~~and/or~~ a number of occurrences of a gray level corresponding to a brightness level of display pixels below a predetermined brightness level being a fixed or adjustable level determined in dependence on the dimmed brightness level, and

~~substantially minimize an error function including one or more weighted numbers of occurrences formed by multiplying each of the one or more numbers of occurrences by a weighting factor; and~~

- means for adapting the input signal in dependence on the dimmed brightness level.

18. (New) A display device as claimed in claim 1, wherein the means for selecting being adapted to select the dimmed brightness level in dependence on the number of occurrences of the gray level corresponding to the brightness level of display pixels above the dimmed brightness level and the number of occurrences of the gray level corresponding to the brightness level of display pixels below the predetermined brightness level being the fixed or adjustable level determined in dependence on the dimmed brightness level.

19. (New) The display device as claimed in claim 1, the means for selecting being adapted to substantially minimize an error function including one or more weighted numbers of occurrences formed by multiplying each of the one or more numbers of occurrences by a weighting factor.

20. (New) The method as claimed in claim 15, the selecting step further comprising substantially minimize an error function including one or more weighted numbers of occurrences formed by multiplying each of the one or more numbers of occurrences by a weighting factor.